

22-1150-1  
March 20, 2017

Mr. John Woods, Superintendent  
Department of Public Works  
108 Main Street  
Carver, MA 02330

Re: **Stormwater Action Plan for Carver**

Dear Mr. Woods:

As you are aware, on April 13, 2016 the U.S. Environmental Protection Agency (EPA) published the final "next generation" National Pollutant Discharge Elimination System (NPDES) *General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts* (i.e., the 2016 MS4 General Permit). This General Permit substantially increases stormwater management requirements and mandates specific timelines for compliance compared to EPA's previous MS4 General Permit. The reissued General Permit will become effective on July 1, 2017, the start of Fiscal Year 2018.

This Stormwater Action Plan establishes actions and a schedule for compliance with the 2016 MS4 General Permit requirements, and recognizes that there are a few remaining tasks required to address 2003 permit requirements. The Plan presents planning-level opinions of probable costs for:

- Recommended actions for high-priority items to meet the 2003 General Permit requirements based on our evaluation of Carver's stormwater management program; and
- Meeting requirements of the new 2016 General Permit for a five-year planning period.

Please note that this Stormwater Action Plan is not equivalent to the EPA-required Notice of Intent or Stormwater Management Plan, but it is an important first step to plan budget and staff resources for the next five fiscal years of program compliance.

## **Stormwater Action Plan**

### **1.0 Short-Term Action Plan for Fiscal Year 2017 (FY17)**

We recommend the following short-term Stormwater Action Plan for the Town to be well-positioned when the new General Permit becomes effective in Fiscal Year 2018. By jump starting the stormwater program during FY17, the cost of compliance can be spread over an additional fiscal year. See Section 3 for additional detail on EPA's compliance schedule.

We have organized the highest priority recommendations from the evaluation letter, along with other actions that are prudent to begin to address the new permit, below from low cost to high cost. The estimated effort to implement these recommendations assumes that the work will be completed through the combined efforts of Town professional staff and consultants. Please note that depending on available funding, some or all of these efforts could be delayed until Fiscal Year 2018.

- **Utilize readily available and free educational materials to enhance Public Education Program**

Carver should distribute posters and brochures to various locations in Town Hall the Library, and Schools for posting and display before the May 1, 2017, annual report is submitted to EPA and MassDEP to continue to educate the public on local stormwater issues.

The budget for this task is **\$0**.

- **2017 Annual Report to EPA**

Since last year’s report was submitted after the May 1 deadline, it should be a high priority to submit the final report under the 2003 General Permit on time (on or before May 1, 2017).

The budget for this task is **\$1,500**, which is not included in Table 1.

- **Implement a Comprehensive Employee Training Program**

Based upon an inventory of municipal facilities and activities the Town should create a master list of staff positions and responsibilities, as well as the required training components. The Town should look for regional cost sharing training opportunities. South Regional Planning and Economic Development, MassDEP circuit riders, Baystate Roads, and professional consultants are all excellent resources for training.

The budget for this task is **\$3,000** (first year) is also shown in Table 1.

- **Begin to Resolve mapping questions.**

The Town should begin field work to confirm whether or not the 329 road cuts are actually MS4 outfalls. In addition, the Town should confirm if there are outfalls in neighborhoods with mapped catch basins but no outfalls mapped.

With assistance from a consultant this budget could begin at **\$5,000** depending on the number of days in the field (assuming three minimum). We assume one town staff would accompany one consultant in the field. Consultant would provide data collection methods and field forms.

- **Begin the Notice of Intent and Written Stormwater Management Plan (SWMP)**

We recommend the Town begin the process of developing the Notice of Intent (NOI) and creating a SWMP during Fiscal Year 2017. While the NOI is not due until September 29, 2017, and the SWMP is not due until July 1, 2018, the NOI and written SWMP commit the Town to stormwater management activities and therefore must be carefully vetted. The cost below includes activities to meet the public participation requirements.

The budget for this task is **\$15,000**, which is also shown in Table 1. Please note that this effort can be split between FY17 and FY18, or completed entirely within FY18.

**2.0 Long-Term Action Plan**

Table 1 presents preliminary cost projections based on activities and deadlines defined by the 2016 Massachusetts General Permit. These numbers are useful for planning and budgeting purposes. On average, the Town of Carver can expect the cost to comply with the 2016 MS4

General Permit to be **approximately \$40,000 per year**, based on 2017 dollars, with some year-to-year variability based on EPA's compliance schedule. Actual costs may be lower if the Town elects to use in-house staff, volunteers, or college interns to complete some or all of the monitoring, data gathering, and reporting requirements. Drainage system maintenance, correction of illicit discharges and connections, and design and construction of stormwater management facilities are not included in this estimate.

**3.0 Schedule**

EPA released the final 2016 Massachusetts General on April 13, 2016. The reissued General Permit will become **effective** on July 1, 2017, the start of Fiscal Year 2018. We recommend the following schedule for implementation of the Action Plan and initial permit compliance activities.


April 13, 2016	General Permit <b>final</b> .
Now – Summer 2017	Request and secure stormwater funding for FY18.
Spring 2017	Begin multi-department meetings to develop Carver's NOI and SWMP. The Town must address the Public Participation requirements in developing these documents.
July 1, 2017	General Permit <b>effective</b> .
September 29, 2017	Submit Notice of Intent to EPA.
June 30, 2018	Finalize Stormwater Management Plan.

We have enjoyed working with the Town of Carver on this project and look forward to assisting you with future stormwater management program needs. If you have any questions or need additional information, please contact me or Thomas Mahanna.

Very truly yours,

**TIGHE & BOND, INC.**

  
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Enclosures: Table 1 - Opinion of Probable Costs Based on the 2016 Final MA General Permit Requirements – Years 1 Through 5

Copy: Michael Milanoski, Town Administrator, Town of Carver  
Ronald E. Clarke, Board of Selectmen, Town of Carver

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**Table 1: Opinion of Probable Costs Based on the 2016 Final MA General Permit Requirements – Years 1 Through 5**

Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
<b>PART 1.0 Introduction</b>								
Notice of Intent (NOI) and Stormwater Management Program (SWMP)	Assumes that the NOI and the SWMP are prepared concurrently.	Submit signed NOI to EPA and MassDEP by September 29, 2017. Develop and sign written SWMP by July 1, 2018. <i>Note that the NOI and SWMP can be started or completed during FY17. See Section 1.2 of the Short Term Action Plan.</i>	\$15,000	\$0	\$0	\$0	\$0	<b>\$15,000</b>
<b>PART 2.0 Non-Numeric Effluent Limitations</b>								
<b>Impaired Waterbody Requirements</b>								
Meet Phosphorus Reduction Requirements for Impaired Waterbodies (Crane Brook Bog Pond))	<p><b>Public Education &amp; Outreach:</b> Distribute an annual message in the spring that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers; in the summer encouraging the proper management of pet waste, including noting any existing ordinances where appropriate; and in the fall encouraging the proper disposal of leaf litter.</p> <p><b>New Development and Redevelopment:</b> Ensure BMPs are optimized for phosphorus removal.</p> <p><b>Good Housekeeping:</b> Establish procedures to properly manage grass cuttings and leaf litter on permittee property, prohibit blowing organic waste materials onto adjacent impervious surfaces, increase street sweeping frequency to twice per year (once in the spring and fall).</p> <p><i>This budget was carried under Part 2.3.2 Public Education and Outreach, Part 2.3.6 Stormwater Management in New Development and Redevelopment, and Part 2.3.7 Good House Keeping and Pollution Prevention.</i></p> <p><b>Phosphorus Source Identification Report:</b> Develop a report detailing:  1. Total MS4 area draining to phosphorus impaired waterbodies, catchments delineations, including impervious area and DCIA totals for each catchment  2. Monitoring results completed during IDDE, including phosphorus  3. Prioritization of catchments with high phosphorus loading  4. List of potential retrofit opportunities for municipal buildings</p> <p><i>Budget for 1 and 2 included as part of Part 2.3.4 Illicit Discharge Detection and Elimination (IDDE) Program, budget for 3 included as part of Part 2.3.6 Stormwater Management in New Development and Redevelopment.</i></p> <p><b>Potential Structural BMPs:</b> Evaluate permittee-owned properties for installation of BMPs. Consider planned projects, cost, permitting, feasibility, etc. Develop a list of locations and schedule for installation of structural BMPs. Install one "demonstration" BMP.</p>	<p><i>See schedules and budgets for Part 2.3.3 Public Education, Part 2.3.6 Stormwater Management in New Development and Redevelopment, Part 2.3.7 Good House Keeping and Pollution Prevention, and Appendix H Part II</i></p> <p>Within four (4) years of effective date of permit, develop the Phosphorus Source Identification Report, and submit to EPA.</p> <p><i>Budget in PY 3 and 4 includes develop and finalizing the Report, and beginning to design a structural BMP.</i></p> <p>Within five (5) years of effective date of permit, evaluate all Town-owned properties for retrofit opportunities, and develop a list of planned BMPs, budget, and schedule.</p> <p><i>Budget carried under Retrofit Inventory includes coordination with Town projects, Town-wide desktop screening, site visits to favorable parcels, conceptual designs for up to three BMPs, planning-level design for one BMP, identification of permitting needs, and development of next steps. Budget does not include survey or soil evaluation.</i></p> <p>Within six (6) years of effective date of permit, install one "demonstration" BMP to address phosphorus.</p> <p><i>Budget carried in PY5 to install BMP. The actual design and construction cost will depend on the type of BMP, size, site conditions, grant funding availability, etc. The Town may realize savings if the demonstration BMP is built with a scheduled roadway improvement project. Cost estimates for all recommended retrofits will be included in the Retrofit Inventory report.</i></p> <p>Annual tracking and reporting on additional BMP installations.</p>	\$0	\$0	\$5,000	\$15,000	\$50,000	<b>\$70,000</b>



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
Meet requirements to manage discharges to waterbodies impaired by nitrogen	<p><b>Public Education and Outreach:</b> Distribute an annual message in the spring that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers; in the summer encouraging the proper management of pet waste, noting any existing ordinances where appropriate; and in the fall encouraging the proper disposal of leaf litter.</p> <p><b>Stormwater Management in New Development and Redevelopment:</b> Adopt/amend the ordinance to require new development and redevelopment stormwater management BMPs optimized for nitrogen removal.</p> <p><b>Good Housekeeping:</b> Establish requirements for use of slow release fertilizers on Town-owned property currently using fertilizer, properly manage grass cuttings and leaf litter on Town property, increase street sweeping frequency to twice per year.  <a href="#">This budget was carried under Part 2.3.2 Public Education and Outreach, Part 2.3.6 Stormwater Management in New Development and Redevelopment, and Part 2.3.7 Good House Keeping and Pollution Prevention, respectively.</a></p> <p><b>Nitrogen Source Identification Report:</b> Develop a report detailing:  1. Total MS4 area draining to nitrogen impaired waterbodies, catchments  2. Monitoring results completed during IDDE, including nitrogen  3. Impervious area for target catchment  4. Identification, delineation, and prioritization of catchments with high nitrogen loading  5. List of potential retrofit opportunities for municipal buildings</p> <p><b>Potential Structural BMPs:</b> Evaluate permittee-owned properties for installation of BMPs. Consider planned projects, cost, permitting, feasibility, etc. Develop a list of locations and schedule for installation of structural BMPs.</p>	<p><a href="#">See budget to address discharges to waterbodies impaired by phosphorus. Assumes phosphorus effort will also cover nitrogen.</a></p> <p><i>See schedules and budgets for Part 2.3.2 Public Education, Part 2.3.6 Stormwater Management in New Development and Redevelopment, and Part 2.3.7 Good House Keeping and Pollution Prevention.</i></p> <p>Within four (4) years of effective date of permit, develop the Nitrogen Source Identification Report, and submit to EPA.</p> <p><a href="#">Assumes a minimal budget in Year 4 to finalize Report.</a></p> <p>Within five (5) years of effective date of permit, evaluate all Town-owned properties for retrofit opportunities, and develop a list of planned BMPs and schedule.</p> <p>Within six (6) years of effective date of permit, install one "demonstration" BMP to address nitrogen.</p> <p>Annual tracking and reporting on additional BMP installations.</p>	\$0	\$0	\$0	\$3,000	\$0	<b>\$3,000</b>
<b>Requirements to Reduce Pollutants to the Maximum Extent Practicable</b>								
<b>Part 2.3.2 Public Education and Outreach</b>								
Education	<p>Distribute a minimum of two (2) educational messages to each of four audiences – residential, business/commercial/institutional, developers/construction, and industrial (except any audiences that are not present in a community).  <a href="#">Includes Year 1 budget for developing education program and program evaluation method, such as a survey, to evaluate effectiveness of education effort. Cost is for assistance with development of materials. It is assumed that publically available materials from EPA, MassDEP, Buzzards Bay Coalition, etc. will be used for Carver. Note that costs do not include postage or other distribution efforts.</a></p>	Public Education and Outreach extends over the permit term. The distribution of materials to each audience shall be spaced at least a year apart. Document in Annual Reports.	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	<b>\$5,000</b>



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
<b>Part 2.3.3 Public Involvement and Participation</b>								
Public Meeting	Provide the public an opportunity to participate in the review and implementation of the SWMP.	Annually. The Year 1 budget is included in the SWMP.	\$0	\$500	\$500	\$500	\$500	<b>\$2,000</b>
<b>Part 2.3.4 Illicit Discharge Detection and Elimination (IDDE) Program</b>								
Identify and Document Sanitary Sewer Overflows (SSOs)	Develop an inventory of known locations of SSOs that occurred within the previous five (5) years. There are no sewers in Carver, therefore this requirement does not apply.	Develop an inventory of all known SSOs within one (1) year of the effective date of permit. Document in SWMP, summarize in Annual Reports, and update inventory annually.  Provide oral notice to EPA within 24 hours of identifying an SSO. Provide written notice to EPA and MassDEP within five (5) days of identifying an SSO.	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
Drainage System Mapping	Work to develop a more complete GIS-based storm drain system map within the MS4, to be completed in two (2) phases. Any additional information should be added to the mapping as it is collected.  <b>Phase 1:</b> Map all outfalls and receiving waters, open channel conveyances, interconnections with other MS4s (e.g., MassDOT), public BMPs, impaired waterbodies, and initial catchment delineations. Phase I has been completed with the exception of public BMPs and initial catchment delineations. Curb cuts defined as outfalls should be verified.  <b>Phase 2:</b> Map all pipes, flow direction, manholes, catch basins, and refined catchment delineations. Some catch basins have been located.	Complete Phase 1 within two (2) years of the effective date of permit. Complete Phase 2 within ten (10) years. Document progress in annual reports.  Budget allowance carried for GIS MS4 system updates including Phase I and Phase II elements and data attributes, MS4 system upgrades, or as discrepancies are discovered. May also include software, web hosting fees, and support with mobile data collection.	\$10,000 - \$20,000	\$10,000 - \$20,000	\$3,000 - \$10,000	\$3,000 - \$10,000	\$3,000 - \$10,000	<b>\$50,000 (average)</b>
Written IDDE Program	Develop IDDE Plan, including Outfall/Interconnection Inventory & Dry Weather Screening and Catchment Investigation requirements and procedures. Establish the parties responsible for implementing and enforcing the IDDE Program.	Complete within one (1) year of the effective date of the permit. Document information in Annual Reports.  Track program success and report the overall effectiveness in Annual Reports.  Note that the IDDE Plan can be started or completed during FY17. Budget for PY2 includes detailed written catchment investigation procedures. We carried an annual allowance for updates and record keeping. Also includes addressing portions of the impaired waterbody requirements for nitrogen and phosphorus.	\$6,000	\$1,000	\$500	\$500	\$500	<b>\$8,500</b>



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
Assessment and Priority Ranking of Outfalls/Interconnections	<p><b>Outfall/Interconnection Inventory and Initial Ranking:</b> Inventory outfalls and interconnections discharging from the MS4. Classify each outfall and interconnection as "problem," "high priority," "low priority," or "excluded" for its potential for illicit discharges. Rank the outfalls/interconnections (except for excluded outfalls) based on the characteristics of their catchment area.</p> <p><b>Dry Weather Outfall and Interconnection Screening and Sampling:</b> Inspect all high and low priority outfalls/interconnections for dry weather flow in accordance with the initial ranking from the inventory. Develop a written screening and sampling procedure to be included in the IDDE Program.</p> <p><b>Follow-Up Ranking of Outfalls and Interconnections:</b> Update and reprioritize the initial outfall/interconnection ranking based on the results of the dry weather screening and sampling.</p> <p>Assumes need to revisit approximately 282 outfalls. 125 outfalls were identified as piped discharge and 157 were curb cuts, the overall outfall number may be significantly reduced on further inspection of the curb cuts if there is no discernable drainage swale connecting to a surface water source.</p> <p>For dry weather screening, we assume 1 consultant field staff will complete effort together with 1 Town staff. To be conservative, we assume 10 outfalls/interconnections will be visited per day and 25% of the outfalls/interconnections (approximately 69) will have dry weather flow. For each flowing outfall, we assume baseline analysis will cost approximately \$150 (laboratory analysis) with additional cost for TMDL/impaired waters analysis (which is included in this budget). In addition, it is assumed a YSI meter will be rented for \$200 per week. Labor assumes 8-hour days and time for planning and summary report development. Annual cost starting in PY4 is for additional work as needed.</p> <p>Cost does not include follow up activities to identify source, remove source, or complete follow up sampling.</p>	<p>Inventory to be completed no later than one (1) year from the effective date of the permit. Include the inventory in Annual Reports. Update ranking annually, but complete within three (3) years of the effective date of the permit. <a href="#">Budget for Initial Inventory and Ranking is carried in the IDDE Plan.</a></p> <p>Written dry weather screening and sampling procedure to be completed within one (1) year of the effective date of the permit. <a href="#">Budget for written procedures is carried in the IDDE Plan.</a></p> <p>Dry weather sampling must be completed no later than three (3) years from the effective date of the permit.</p>	\$10,000	\$10,000	\$10,000	\$0	\$0	<b>\$30,000</b>



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
Catchment Investigation	<p>Begin systematic implementation of the illicit discharge detection procedure in all "Problem Catchments" and catchments identified as priorities with the highest rankings. Includes key junction manhole inspections and screening in all catchments.</p> <p>Identify all System Vulnerability Factors within catchments during investigations. Perform wet weather screening in the spring for those catchments that indicate the presence of one or more System Vulnerability Factors, which are associated with potential sanitary sewer inputs to the drain.</p> <p>The actual budget will depend on Delineation and Prioritization of Catchments in the IDDE Plan, number of structures to investigate, and cost to remove any illicit discharges identified.</p> <p>Our cost assumes 1 key junction manhole per outfall (total of approximately 275 key junction manholes), screen 40% for ammonia, surfactants, and chlorine using field kits (\$8 per sample). Includes an allowance of \$3,000 for police detail. Assuming 15 manholes per day can be inspected by 1 field staff and 1 Town staff together. Labor assumes 8-hour days and time for planning and summary report development.</p> <p>Cost does not include follow up activities to identify source, remove source, or complete follow up sampling.</p>	<p>Investigations must start by PY2 (FY19) and be completed by PY7 (FY24) for Problem Outfalls or outfalls with sewer input. Investigations for high and low priority areas should be completed in conjunction with monitoring and prioritizing. Complete investigation of 100% of catchments with Problem, High, and Low Priority Outfalls by Year 10 (FY27).</p> <p>Written plan for catchment investigation must be completed within 1.5 years of effective date of the permit and included in IDDE plan. Budget carried for written procedures for catchment investigations carried in the IDDE Plan.</p> <p>Document System Vulnerability Factors for each catchment and results of dry and wet weather monitoring in Annual Reports.</p>	\$0	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000
Outfall Monitoring (Wet Weather)	<p>Wet weather screening is required in catchments with 1 or more System Vulnerability Factors.</p> <p>For communities without sewer, wet weather is only recommended not required.</p>	No budget has been carried as this is not required for Carver.	\$0	\$0	\$0	\$0	\$0	\$0
Annual Employee Training	Provide annual training for employees involved in the IDDE program about the program, and how to recognize illicit discharges.	<p>Report on the frequency and type of training in Annual Reports.</p> <p>These costs assume a combination of Town staff-lead trainings using low-cost materials developed by others. Assumes Year 1 will include development of a comprehensive training program and schedule.</p>	\$3,000	\$1,000	\$1,000	\$1,000	\$1,000	\$7,000
<b>Part 2.3.5 Construction Site Stormwater Runoff Control</b>								
Regulatory Updates and Review	Review existing ordinance & regulations for consistency with permit requirements. Confirm documents define responsibility for site inspections and person with authority to enforce sediment and erosion control measures, etc.	<p>Complete within one (1) year from effective date of permit.</p> <p>Complete in conjunction with effort under Part 2.3.6 Stormwater Management in New Development and Redevelopment. This budget was carried under the Regulatory Updates and Review Section in Part 2.3.6 Stormwater Management in New Development and Redevelopment.</p>	\$0	\$0	\$0	\$0	\$0	\$0



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
Written procedures for site plan review and inspection and enforcement	Develop written procedures that detail review categories and timing, and procedures for long-term tracking.	Complete development within one (1) year from effective date of permit.  <i>Complete in conjunction with effort under Part 2.3.6. This budget was carried under the Regulatory Updates and Review Section in Part 2.3.6 Stormwater Management in New Development and Redevelopment.</i>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
<b>Part 2.3.6 Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)</b>								
Regulatory Updates and Review	<p>Amend or modify existing ordinance for development of 1 or more acres to retain the first:</p> <ul style="list-style-type: none"> <li>- one inch of runoff from all impervious area or provide equivalent pollutant removal (<u>new development</u>);</li> <li>- remove 90% of average annual TSS load and 60% of the average annual TP from total post-construction impervious surface at the site (<u>new development</u>);</li> <li>- 0.80 inches of runoff from all impervious area or provide equivalent pollutant removal on or offsite in the same watershed (<u>redevelopment</u>); or</li> <li>- remove 80% of average annual TSS load and 50% of the average annual TP from total post-construction impervious surface at the site (<u>redevelopment</u>).</li> </ul> <p>Municipal roadway work/improvements are exempt from infiltration/pollutant removal requirements, except for full-depth reclamation projects.</p> <p>LID planning must be used to the maximum extent feasible. BMPs must be consistent with the MA Stormwater Handbook. Modify existing ordinances to require submission of as-built plans and long-term O&amp;M procedures.</p> <p>Develop a report assessing current street design and parking lot guidelines to support low impact design, and develop a report assessing existing regulations to determine feasibility of making green infrastructure practices allowable.</p> <p><i>This task will also include the regulatory requirements and written procedures under Part 2.3.5 Construction Site Stormwater Runoff Control.</i></p>	<p>Procedures for site inspections and enforcement of sediment and erosion control measures, site plan review and requirements for as-built plans and O&amp;M procedures shall be completed within one (1) year from the effective date of the permit. <i>Assume Carver meets these requirements with current local bylaws and regulations.</i></p> <p>Modifications to ordinance &amp; regulations to be completed within two (2) years of effective date of permit. <i>The PY2 costs are to develop additional legal language, including regulations. Additional costs shown are for updates, including forms and guidance.</i></p> <p>Street design and parking lot assessment to be completed four (4) years after effective date of the permit. Local regulatory assessment for green infrastructure practices must be completed in four (4) years from effective date of the permit. <i>Costs assume these efforts will be completed concurrently and finalized in Permit Year 4. The Year 4 cost does not include development of bylaw language, only an assessment memorandum.</i></p>	\$0	\$5,000	\$0	\$3,000	\$0	<b>\$8,000</b>
Retrofit Inventory	Report on the MS4-owned properties and infrastructure that have the potential to be retrofitted with BMPs designed to reduce the frequency, volume, and peak intensity of stormwater discharges as well as their pollutant loadings. Annually report on MS4-owned properties that have been retrofitted with BMPs to mitigate impervious area and directly connected impervious area.	Assess feasibility of retrofits of a minimum of 5 permittee-owned properties within four (4) years from the effective date of the permit. Identify additional MS4-owned properties that could be retrofitted and report on any that have been modified or retrofitted in the annual report beginning in Year 5. Maintain a minimum of 5 sites in the inventory. <i>Costs in PY4 include identifying potential retrofit locations using a desktop process to pre-screen sites and then limited field visits to further evaluate potential sites.</i>	\$0	\$0	\$0	\$10,000	\$0	<b>\$10,000</b>



Major Requirements	Details and Assumptions	Schedule Details	Year 1 FY18	Year 2 FY19	Year 3 FY20	Year 4 FY21	Year 5 FY22	Total
<b>Part 2.3.7 Good House Keeping and Pollution Prevention for Permittee Owned Operations</b>								
Inventory Town-Owned Facilities and Floor Drains, and Develop Written O&M Procedures for Parks, Buildings/Facilities, Vehicles/Equipment, and Infrastructure	Develop inventory of municipally-owned facilities and equipment. Develop written operations and maintenance procedures for the municipal activities.  Establish a program to repair and rehabilitate MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from the MS4.	Within two (2) years from the effective date of permit. Include written procedures in SWMP.	\$2,000	\$3,000	\$0	\$0	\$0	<b>\$5,000</b>
Stormwater Pollution Prevention Plans (SWPPPs) for Highway Garage.	Assume one SWPPP is needed for the DPW/Highway Facility.  Budget carried for annual training by contractor. Overall training costs may be reduced if combined with Annual Employee Training under the IDDE Program.	Within two (2) years from the effective date of the permit. Report on annual inspections in Annual Report.	\$0	\$5,000	\$500	\$500	\$500	<b>\$6,500</b>
Catch Basin Cleaning	Optimize catch basin cleaning program to ensure that no catch basin is more than 50% full. Consider using a GPS application to track system inspection and maintenance.	Annually, beginning in Year One. Assume this budget item carried elsewhere. Completed by Town staff or contractor.	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
Street Sweeping	Sweep streets and parking lots directly connected to MS4 once in the spring.  The Town will need to increase sweeping to twice per year in watersheds impaired by nutrients (nitrogen and phosphorous).	Annually, beginning in Year One. Assume this budget item carried elsewhere. Completed by Town staff or contractor.	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
Winter Road Maintenance	Establish procedures for winter road maintenance, including use and storage of salt and sand. Consider documenting salt use in wellhead protection areas.	No schedule provided. Assume this budget item carried elsewhere. Completed by Town staff or contractor.	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
Storm Drain System Inspection	Inspect and maintain the storm drain system and all stormwater treatment structures. Consider using a GPS application to track system inspection and maintenance.	Annually, beginning in Year One. Assume this budget item carried elsewhere. Completed by Town staff or contractor.	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

<b>PART 4.0 Program Evaluation, Record Keeping, and Reporting</b>								
Annual Reports and Record Keeping	Self-evaluate compliance with the terms and conditions of the permit. Keep all records required by the permit for at least five (5) years.	Submit Annual Reports each year. Reporting period is from July 1 through June 30. Annual report is due ninety (90) days from the close of each reporting period. Cost assumes a contractor will complete the majority of the work with Town input.	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	<b>\$12,500</b>
<b>Total Estimated Budget</b>			<b>\$39,500</b>	<b>\$32,000</b>	<b>\$24,000</b>	<b>\$40,000</b>	<b>\$59,000</b>	<b>\$194,500</b>

